ASSESSMENT OF CAREGIVER GENERALIZATION OF REINFORCEMENT TO THE NATURAL ENVIRONMENT IN A LARGE RESIDENTAL FACILITY AND USE OF PROMPTING AND FEEDBACK TO IMPROVE PERFORMANCE

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Behavioral skills training (BST) is often used to train caregivers to implement various behavior management procedures; however, additional strategies are sometimes required to promote the generalization of skills from a contrived setting to the natural environment. Generalizing skills to the natural environment requires that the caregiver's behavior transfer from control of stimuli in the contrived setting to stimuli in the natural environment, and the skill continues to be performed with high levels of accuracy. The purpose of this study was to assess the extent to which caregivers generalized the use of social reinforcement, in the form of descriptive praise, from the contrived setting to the natural environment. When caregivers failed to respond to opportunities, a progressive prompt delay was used to bring caregivers' responding under the control of relevant client behavior; feedback was used to improve the accuracy with which caregivers implemented reinforcement. Five caregivers in a large residential facility participated in the study; single-opportunity probes were used to assess caregiver's identification of opportunities and accuracy in implementing reinforcement for two defined client behaviors, compliance and appropriate attention-getting behavior. Results of the study suggest that skills failed to generalize from the contrived setting to the natural environment. However, prompting was effective in training caregivers to identify opportunities to provide reinforcement, and feedback improved implementation of reinforcement.

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CHAPTER 1

INTRODUCTION

Behavioral skills training (BST) is a commonly used strategy for teaching new skills. Typically, a trainer provides written or verbal instructions and a model, and learners rehearse and receive feedback from the trainer until they are competently performing the skill (Parsons, Rollyson, & Reid, 2012).

BST has been used successfully to train caregivers to perform various behavior management procedures, ranging from conducting paired-choice preference assessments to implementing multi-component behavior intervention plans (Hogan, Knez, & Kahng, 2015; Lavie & Sturmey, 2002; Miles & Wilder, 2009; Palmen, Didden, & Korzilius, 2010; Sarakoff & Sturmey, 2008; VanCamp, Vollmer, Goh, Whitehouse, Reyes, Montgomery, & Borrero, 2008). However, actual improvements in clients' behavior require that skills be performed competently and consistently outside the training setting. This transfer of skills from the training context to the natural environment has been characterized as "generalization," or the "occurrence of behavior under different nontraining conditions" (Stokes and Baer, 1977, p. 350).

Most often, BST incorporates role plays with the trainer or other learners. At times, generalization occurs after the caregiver has mastered the skill in a role play without additional procedures to promote generalization or refresher training. For example, Bolton and Mayer (2008) taught paraprofessionals to implement discrete trial training (DTT) using instructor-led role plays and found that the skill generalized to use with a client in a different setting without further training. Similarly, teachers in an autism center implemented the Picture Exchange Communication System (PECS) with high levels of fidelity with students after role playing with other learners and the trainer (Homlitas, Rosales, & Candel, 2014). Additionally, VanCamp et al.

(2008) incorporated structured role plays with trainers to teach foster parents several behavior management skills during a 30-hour workshop. An optional in-home visit was offered to parents during their training; generalization of skills taught in the workshop was assessed for parents that opted for a behavior analyst to visit their home. It appeared that skills generalized for these parents to their foster children without additional training (however, this portion of the study lacked experimental control because evaluating the effects of training involved repeated measures without a controlled experimental design, such as a multiple baseline across skills).

However, generalization does not always occur following BST without other supports. For example, Dogan, King, Fischetti, Lake, Mathews, & Warzak (2017) trained parents to teach their children social skills through role plays with a trainer. Some parents failed to generalize to an untrained program with their children while others were successful. In another example, following BST, college students implemented PECS at mastery criterion during a role play; however, all participants required remedial training to perform the skill at mastery criterion with clients (Rosales, Stone, & Rehfeldt, 2009).

To address failures to generalize, various strategies have been used to promote generalization of behavior management procedures during the caregivers' initial training. One strategy is multiple-exemplar training, or general case training, which involves rehearsing several potential scenarios or programs. Ducharme and Feldman (1992) found direct-care staff in a group home demonstrated more within-program and across-program generalization of teaching skills when they role played several different types of programs rather than only one. Rehearsing multiple scenarios has also been effective in promoting generalization of parents' implementation of DTT and food selectivity procedures; however, some participants did require

retraining to maintain performance at mastery criteria (Alaimo, Seiverling, Sarubbi, & Sturmey, 2017; Ward-Horner & Sturmey, 2008)

Another strategy to promote generalization is rehearsal with target populations (i.e., the individuals with whom the procedures were intended to be used), either in addition to or in lieu of a role play with the trainer. For example, parents who rehearsed DTT and guided compliance with their children were able to implement these procedures in settings and with programs other than those in the training context. (Miles & Wilder, 2009; Lafasakis & Sturmey, 2007). In another study, staff members who practiced implementing DTT with students generalized the skill to other students and different teaching programs (Sarakoff & Sturmey, 2008).

However, this strategy has not always been successful. Smith, Parker, Taubman, and Lovaas (1992) taught staff members in a group home several behavior management skills during a week-long workshop; rehearsal took place with trainers and with children in a local autism clinic. The authors determined skills failed to generalize to clients in the group home because no statistically significant difference was found between client behavior before and after the workshop. Additionally, both role plays and practice with students were used by Palmen et al. (2010) to teach vocational staff members to use positive reinforcement, error correction, and prompting when students asked questions. Minimal generalization occurred for a new student response – working on an assigned task.

While strategies incorporated during initial training, such as, multiple-exemplars and rehearsal with target populations, have been helpful to promote generalization, they are not feasible in all training environments. For example, orientation training in large organizations (e.g., school districts, large residential/training facilities, etc.) may not allow for individualized or time-intensive training options. In such contexts, extended role plays and rehearsal with clients

may be impractical or impossible. Overall, the literature on BST and generalization indicates that although BST is effective in training caregivers to implement procedures in the training setting, additional supports and procedures are often needed to promote generalization of behavior management skills to natural environments.

When initial training is conducted in large groups, but caregivers are supervised in smaller groups, it may be possible for supervisors to extend training into the natural environment after caregivers have demonstrated competency in performing a skill in the training context (e.g., refresher or booster training). Refresher trainings have been used to aid caregivers in maintaining behavior management skills following BST (Noell, Witt, LaFleur, Mortenson, Ranier, & LaVelle, 2000; Shayne and Miltenberger, 2013). Maintenance refers to continued accurate performance of a skill after training and across time (Cooper, Heron, & Heward, 2014); generalization is when the skill occurs in nontraining conditions. Refresher trainings, beneficial in promoting maintenance, may also be beneficial in training caregivers to generalize skills from role plays to the natural environment. Successful refresher training should be low cost, low effort for both supervisors and caregivers, and provide caregivers with opportunities to implement procedures across various settings (Hamman, 2017). Noelle et al (2000) suggests these refresher training could be as simple as a prompt.

When extending training from role plays to the natural environment it is important to consider that opportunities for caregivers to implement procedures are typically much clearer in a role play than in the natural environment. For example, in a role play, caregiver responding may be under the control of the trainer's instructions as well as the trainer's other behavior; however, in the natural environment, responding must come under the control of naturally occurring events (often, the client's behavior) only. That is, for generalization to occur, a

caregiver's behavior must transfer from control of stimuli in the role play to stimuli in the natural environment (Allen & Warzak, 2000). For consistent and effective implementation to occur in the natural environment, caregivers must be able to identify opportunities to implement a procedure and accurately implement it. Refresher training may need to address one or both components.

Naturalistic or incidental teaching, which involves embedding teaching opportunities into a student's daily routine rather than teaching through direct instruction, requires caregivers to consistently identify naturally occurring opportunities to implement procedures (i.e., their responding must be under the control of naturally occurring contextual events and/or client behavior). Research on naturalistic teaching may be helpful when designing training for caregivers to identify opportunities to implement behavior management procedures in the natural environment.

Palmen et al. (2010) trained vocational monitors to provide reinforcement, error correction, and prompting when students asked or should have asked questions. They also assessed monitors' use of skills to an untrained student response. BST and individual supervisory feedback sessions were used to train monitors to implement the three procedures. They found vocational monitors rarely responded to opportunities to use skills in baseline. Considerable improvement was demonstrated for prompting and error correction following training on the targeted student response but not for the untrained student response. Minimal improvement was demonstrated for vocational monitors' use of positive reinforcement; after training, staff members only responded to around 5%-30% of opportunities to provide reinforcement for the trained response and between 10%-16% of opportunities for the untrained student response.

Vocational monitors reported they felt praising a student for asking a question was “artificial” and the response to the question should be enough to reinforce question asking.

Schepis, Reid, Ownbey, and Parsons (2001) trained paraprofessionals in an inclusive classroom to embed teaching in the natural routines of children with disabilities. Paraprofessionals were taught to use prompting, error correction, and reinforcement after they asked the student a question or instructed the student to perform a task. Part of the training included teaching the paraprofessionals to identify and create five types of opportunities during normal routines. Paraprofessionals were taught to implement the three procedures by rehearsing with trainers and students, and through continued observations and feedback from trainers. The number of opportunities paraprofessionals created by asking questions or providing instructions remained the same throughout the study; however, following training, the number of opportunities to which paraprofessionals responded correctly increased and student performance improved.

Two of the four paraprofessionals had previously been taught to provide instruction through DTT; however, all four failed to provide reinforcement, prompting, and error correction during normal classroom routines until training specific to embedded teaching was provided. Schepis et al. (2001) suggest paraprofessionals who had previously been taught to use the procedures in a more structured setting failed to generalize skills to everyday routines until specific training on identification and creation of opportunities was provided.

Training specific to capitalizing on opportunities to use skills was also required in Schwartz, Anderson, and Halle (1989). They taught teachers to use a naturalistic time delay procedure to improve students’ language use during everyday classroom routines. Teachers were trained explicitly on 15 regularly occurring opportunities to use a naturalistic time delay across

three categories of opportunities and were instructed to use naturalistic time delay during all appropriate opportunities in their classroom. However, teachers did not generalize use of naturalistic time delay to untrained opportunities until they were explicitly trained to do so by role playing teacher-generated novel examples.

To summarize, explicit training may be required for caregivers to transfer use of behavior management procedures from a role play to naturally occurring opportunities. One way to transfer antecedent control over behavior from an arbitrary stimulus or prompt (e.g., the stimuli present during BST) to stimuli in the natural environment is the use of a prompt delay procedure. A prompt delay is used to transfer stimulus control from a prompt to the naturally occurring discriminative stimulus (Walker, 2008) by initially presenting the prompt along with the "natural" stimulus and then systematically inserting a delay between the natural stimulus and the prompt. When the target behavior occurs prior to the prompt, transfer of control is demonstrated. For example, Young and Daly (2016) trained college students to visually analyze single-subject data using a constant prompt delay paired with rewards for accuracy and low latency. In another study, teachers' assistants were taught to implement token economies through a training package including a tactile prompt at a constant prompt delay (Petscher & Bailey, 2006). The experimenter prompted the teacher's assistants to implement the procedure through a vibrating pager 3-5 seconds after the experimenter observed an opportunity.

The two most common prompt delay procedures include a progressive prompt delay and a constant prompt delay. In a progressive prompting procedure, the length of the delay starts small and increases as the learner demonstrates correct responding, whereas the length of the delay is unchanged throughout constant delay procedures. Walker (2008) reviewed studies using one or both types of prompt delay procedures with children diagnosed with Autism Spectrum

Disorder. She determined progressive prompt delays resulted in fewer errors and earlier transfer of stimulus control. Experimenters using a progressive prompt delay were also less likely to make procedural modifications.

The current study assesses caregivers' generalization of reinforcement (in the form of descriptive praise) from a contrived setting to the natural environment. When caregivers failed to consistently provide reinforcement when targeted opportunities to reinforce occurred, they were trained through a progressive prompt delay to identify opportunities to do so. Feedback was used in the current study to retrain caregivers on the steps of reinforcement if they were performing the skill below mastery criteria after they met the criterion for correctly identifying opportunities.

Feedback has been provided frequently following observations in the natural environment to improve caregivers' performances (Schepis et al., 2001; Palmen et al., 2010; and Sanders & Glynn, 1981). Feedback sessions typically lasted 10-15 minutes and were conducted immediately following observations of caregivers interacting with clients. Feedback in this study was provided after each assessed opportunity to provide reinforcement and was brief (between 10-30 seconds) so that caregivers could immediately resume their regular job duties.

CHAPTER 2

METHOD

Participants and Setting

This study was conducted at a large residential and training facility for adults with developmental and physical disabilities. Probes for this study took place in the clients' apartments and their workshops during the day shift or the beginning of the evening shift. Occasionally, probes took place in other locations around the residential facility's campus including the canteen, the gym, and the computer lab.

Participants in the current study included five caregivers working in the facility. When baseline began, Caregiver 0062 had worked at the facility for four months, Caregivers 0033 and 0038 had worked at the facility for approximately 10 months, Caregiver 0024 for approximately 14 months, and Caregiver 0028 for approximately 22 months. Caregiver education levels were unknown; the facility had no minimum educational requirements for employment. All participants spoke fluent English; Four participants were native English speakers and one participant's first language was unknown.

When the caregivers in the study were hired, they attended a 16-hour behavior management course as part of orientation. During training, they were taught basic behavior principles and three specific behavior management tools – to provide reinforcement for appropriate client behavior, to use differential reinforcement for decreasing "junk" (annoying but harmless) behavior while improving appropriate behavior, and to redirect and protect clients and others when dangerous behavior occurred. Training included written and vocal instructions, in the form of a PowerPoint lecture and a participant packet with fill-in-the-blanks and activities. Lectures were given by behavior analysts or graduate students trained and supervised by

behavior analysts. Skills were modeled via videos and in-class exemplars after the lecture for each behavior management tool. Caregivers had the option to participate in role plays during class and were required to complete a role play check-off at the end of the course; the role play check-off included one role play that provided caregivers with an opportunity to demonstrate use of all three behavior management tools. Role plays in the check-off were repeated until they were performed with 100% accuracy. Feedback was provided after each role play in class and during the check-off.

Following orientation, caregivers participated in on-the-job training (OJT) where caregivers received one to three hours of additional training on behavior management. During this time, caregivers completed three novel role plays (one for each of the behavior management tools taught during orientation) with feedback. Video models were used to review the tools and additional training was provided on some clients' individualized behavior support plans. In October 2016, OJT was modified to include training on the use of protective equipment for dangerous behavior. The update included adding a fourth role play and a video on how to use the equipment. Two caregivers (0038 and 0062) participated in the updated OJT requirements.

At least three months following OJT, maintenance of caregivers' implementation of the three behavior management tools in a role play setting was assessed by having caregivers participate in the same role plays from OJT. For role plays performed below 100% accuracy, booster sessions comprised of a video model and feedback were provided. Caregivers then repeated the role plays and booster sessions until they reached 100% accuracy. Role plays requiring booster sessions were repeated at least one week later. Because reinforcement was incorporated into the other behavior management tools, caregivers had practiced providing reinforcement in a role play setting at least seven times before beginning the current study.

Caregivers were required to complete orientation, OJT, and the maintenance assessment before participating in the current study.

Experimental Design

A nonconcurrent multiple-baseline across participants design was used for Caregivers 0024, 0038, and 0062. Caregiver 0033 did not complete the study because he left the facility before he completed the prompt delay phase; the data were not included as part of the multiple baseline but were included for analysis. An ABA reversal design was used for Caregiver 0028 who participated in a modified procedure called the structured antecedent procedure.

Dependent Variable

The dependent variable in the study was caregivers' implementation of reinforcement as taught in the behavior management curriculum from orientation. Implementation of reinforcement was measured using a checklist comprised of six steps. The checklist used in the study was similar to the one used during the caregivers' orientation training.

The checklist used in the study included six steps of reinforcement. First, the caregiver must tell the client what behavior they like (i.e., praise must be specific). Secondly, any consequences provided must match in value to the client's behavior. For example, value-appropriate consequences for complying with a simple, one-step demand might be praise or a high-five. A matched consequence for a client engaging in an appropriate attention-getting behavior could be answering the question the client asked or continuing the conversation the client began. Providing very powerful reinforcers for minor behaviors, such as a field trip for following a one-step request, or providing small reinforcers for highly difficult or effortful

behavior, such as praise contingent on successful work output for an entire week, would be examples of inappropriately matched consequences. Neutral (e.g., making a comment about the client's clothes) or negative consequences (placing more demands on the client) are additional examples of inappropriate consequences for positive behaviors. Next, a consequence must be provided within three to seven seconds of observing the appropriate behavior. Fourth, facial expressions and tone of voice must be sincere and appropriate and body language must be relaxed. Fifth, caregivers must ignore any junk behavior occurring simultaneously. Junk behavior was defined for the caregivers during initial training to be annoying behavior that is not dangerous to the client or others and not destructive to property. Sixth, the caregivers must not use any coercion or punishment procedures. Coercion was explained in the first day of initial training to be attempts to control another's behavior through force or threats. Examples included using criticism, sarcasm, guilt trips, etc.

The checklist used in the study varied slightly from the initial training checklist used in orientation and OJT. Originally, Step 3 was phrased as "providing a positive consequence within three to seven seconds"; in the current checklist, the word "positive" was removed so all consequences provided by caregivers were scored regardless of the topography. The checklist was scored in the natural environment differently than in role plays; changes were made to capture the difference between a caregiver incorrectly providing a consequence and failing to respond to an opportunity. During observations in the natural environment, if a caregiver provided a consequence, implementation of reinforcement for Steps 1, 2, 3, 4, and 6 were scored in the "Yes" and "No" columns. However, if the caregiver did not provide a consequence, all steps were scored as "N/A" or not applicable. Providing a consequence was defined as a change in the caregiver's behavior following and contingent on the client's compliance or appropriate

attention-getting behavior. Step 3 was also scored as "N/A" if the caregiver was prompted to provide a consequence. Additionally, Step 5 was always scored contingent on the occurrence of junk behavior during the probe regardless of whether the caregiver provided a consequence.

Scoring guidelines for the reinforcement checklist in the natural environment were changed while three of the five caregivers were in baseline. Data previously collected were rescored when information on the checklist and data sheet was detailed enough for the checklist to be re-scored according to the new guidelines. When data sheets could not be re-scored they were excluded from analysis; four probes had to be excluded.

The data sheet used in the study for Caregivers 0033, 0024, 0038, and 0062 and the data sheet for the structured antecedent procedure with Caregiver 0028 can be found in Appendix A. Data sheets included basic information about the probe, including the time, date, caregiver name, location, phase, and prompt-delay used (if applicable).

The data sheet also included two client target behavior definitions developed previously (Speckin, 2017). Client target behaviors identified the beginning of an opportunity for the caregiver to provide reinforcement. The client target behaviors included compliance and appropriate attention-getting behavior. Compliance was defined as any time a client started to complete a task following a vocal instruction from the caregiver without engaging in junk or dangerous behavior. Appropriate attention-getting behavior was defined as any appropriate behavior a client used to attempt to gain the attention of the caregiver when the caregiver was not talking to, looking at, or facing that individual; examples: waving, initiating a conversation, tapping on the shoulder, calling a caregiver's name, etc. It should be noted that no effort was made to account for every opportunity for caregivers to provide reinforcement; that is, defined target behaviors identified do not include all behavior for which caregivers should provide

reinforcement. Rather, they were selected because they represented “universal” opportunities to provide reinforcement (i.e., it would be appropriate to provide reinforcement to any client who exhibited these behaviors) and because they were likely to be observed during observation trials.

Additionally, the data sheet included a place to record a description of events and conditions that were present immediately prior to the client’s behavior (i.e., potentially relevant antecedent conditions), the client’s behavior, and the consequence the caregiver provided. The checklist was included on the data sheet with columns to score each step as occurring (“Yes”), not occurring (“No”), or no opportunity to demonstrate the step (“N/A”). The bottom of the data sheet included a space to record if the caregiver observed the target behavior and their description of the behavior. The data sheet for the structured antecedent procedure was identical to the original data sheet except it included a space to record if the experimenter prompted the caregiver to provide an instruction to the client. In addition, the only client behavior recorded was compliance.

During probes, the caregiver’s use of reinforcement was scored on one checklist; however, the caregiver’s identification of an opportunity to provide reinforcement by providing any consequence and the overall implementation of the reinforcement were displayed and analyzed separately. The caregiver’s unprompted identification and response to an opportunity to provide reinforcement was scored by Step 3 (providing a consequence within seven seconds). Step 3 was analyzed and displayed on a cumulative record of the frequency of probes when any unprompted consequence was provided. The cumulative record for Step 3 was compared to an ideal cumulative record showing a representative data path if the caregiver responded to every opportunity; the comparison was used to determine if the caregiver was responding to opportunities to provide reinforcement at an appropriate rate (i.e., an appropriate rate would

either perfectly match the ideal cumulative record or run parallel to it). The caregiver's implementation of reinforcement was scored using Steps 1, 2, 4, 5, and 6; the percentage of steps implemented correctly in each probe was displayed on a bar graph. Percent correct was calculated by dividing the number of steps scored as "Yes" by the number of steps scored as "Yes" and "No" for each probe and multiplying by 100 to calculate a percentage.

Reliability

Interobserver agreement (IOA) was calculated for 44% of probes. IOA was calculated for agreement on the antecedent, behavior, consequence, type of client behavior, caregiver's report of the behavior, caregiver's description of the behavior, and the reinforcement checklist. After each probe, observers immediately compared checklists and discussed disagreements. If one observer did not see or hear a portion of the interaction, IOA was not calculated for that probe. 18% of IOA probes were excluded from IOA calculations because one observer did not hear or see a portion of the interaction.

Descriptions of the antecedent, behavior, consequence, and caregiver's descriptions of the client's behavior were considered to have agreement if the observers wrote similar things and referred to the same event. For example, if one observer wrote, "client began to stand up" and the other wrote, "client stood up and walked to the trash can", the behavior description was considered to have agreement. Scoring on the type of client behavior and caregiver's report of the behavior was considered to have agreement if both observers circled the same client target behavior or answer. IOA percentages were calculated by summing the number of probes with agreement, dividing the result by the total number of the probes, and multiplying by 100. Agreement on the description of antecedents was 97%, description of the behavior was 99%,

description of the consequence was 90%, and the caregiver's description of events was 82%. Agreement on the type of client behavior was 99% and the caregiver's report of the behavior was 92%. Observers sometimes failed to record if caregivers observed the events and what the caregiver reported, which accounts for the lower IOA on these components of the data sheet. When disagreements due to nonresponses were removed from the IOA calculations, mean agreement for the caregiver's report of events was 98% and agreement on their description of events was 95%.

IOA on the reinforcement checklist for each probe was calculated by dividing the number of steps with agreement by the total number of steps and multiplying the result by 100. Overall checklist IOA was calculated by adding the percentage agreement for each probe and dividing by the total number of probes with IOA. Overall agreement on the checklist was 94% with a range of 17% -100%.

Additionally, IOA was calculated on the experimenter's rescoring of probes that took place before the scoring guidelines were changed. The experimenter rescored every eligible checklist and a graduate research assistant familiar with the updated scoring guidelines also independently rescored ten randomly selected checklists. Checklists were eligible when the data sheet included enough information to rescore the checklist. Agreement was calculated for each checklist in the same manner as above. Agreement was calculated for 30% of rescored checklists and was 100%.

Observer Training

Prior to baseline, graduate research assistants were trained to identify each of the defined client target behaviors. Training was conducted during single-opportunity probes where the

probe continued until the first instance of either compliance or appropriate attention-getting behavior. The observer and experimenter watched a target caregiver and all clients with whom they interacted. When either the observer or experimenter saw a client engage in a target behavior, they scored it on the data sheet and ended the probe. The experimenter gave the observer up to 10 seconds following the occurrence of a target behavior to score the data sheet. Immediately after ending the probe, the observer and experimenter discussed what they saw. The experimenter provided feedback on aspects of the client's behavior that were not scored or scored incorrectly. Training continued until the observer could identify and correctly score target behaviors quickly and consistently, based on a visual analysis of their data as compared with data records scored by the experimenter.

Observers were trained to score the reinforcement checklist using similar procedures. Probes were conducted as described above; however, caregivers were not asked what they observed. Observers scored caregivers' delivery of consequences to clients, and the experimenter provided feedback on the scoring of the checklist. Training continued until observers checklist records consistently corresponded with those scored by the experimenter.

Procedures

General Observation Procedures

The experimenter entered the context (home, workshop, etc.) and asked the caregiver if it was a good time to observe; probes were not conducted if the caregiver said it was not a good time and probes were terminated early if the caregiver or client asked the experimenter or IOA observer to leave, or if the client indicated he/she wanted the observers to leave (for example, if he/she went into their room and closed the door). Observations consisted of single-opportunity

probes; length of the probes varied because they depended on the occurrence of client target behaviors but did not exceed 10 minutes. In the event 10 minutes elapsed with no occurrence of a client target behavior, the probe was terminated.

During a probe, the experimenter and IOA observer watched all interactions between the caregiver and clients until the first instance of a client target behavior. When a client target behavior occurred, the probe ended after the caregiver provided a consequence or approximately seven seconds after the first instance of the client's target behavior if no consequence was provided. However, if a client was asked to engage in a behavior extending across time (e.g., walk with me, go into the kitchen, etc), the opportunity to provide reinforcement began when the client started to comply with the instruction and ended after seven seconds if the task was completed, if compliance continued for seven seconds, or the if the client stopped complying before seven seconds elapsed. Probes that ended when the client stopped complying before seven seconds elapsed were excluded from analysis; five probes had to be excluded from analysis based on this criterion.

Immediately following the probe, the observer(s) scored the data sheet and the experimenter determined if the caregiver observed the same events by asking general questions (e.g., "what did the client just do?" or "when you asked the client to ____, what did he/she do?"). If a caregiver reported they did not see the same behavior the experimenter recorded, the probe was excluded from analysis (i.e., it was assumed that the caregiver was not aware that the behavior had occurred and, thus, could not be expected to deliver consequences). If the caregiver provided specific praise during the probe, the experimenter did not ask the caregiver what they had observed (i.e., that information was already apparent). These procedures were similar to those described by Speckin (2017), who observed that existing stimulus control relations for

scoring (observers) or providing appropriate consequences (participants) could be masked by distractions in the environment. In such cases, asking caregivers and observers to report what they had just seen or heard following a probe permitted identification of situations in which failures to score or respond appropriately were most likely due to lack of contact with the stimulus (client's behavior). Only one probe was excluded from analysis because a caregiver reported they did not see the client's behavior.

Baseline

Prior to the first probe the experimenter informed the caregiver that the experimenter was observing caregiver and client interactions, and was specifically interested in clients' compliance and appropriate attention-getting behavior (target behaviors were not defined for the caregiver). The experimenter told the caregiver to continue with their regular job duties and informed him/her that the experimenter would occasionally ask the caregiver questions to make sure the caregiver and experimenter saw the same thing. These instructions were provided to caregivers at the start of each baseline observation.

The observer(s) conducted probes as described previously, determined if caregivers observed the same events, then prepared for the next probe or thanked the caregiver before leaving. The experimenter never told the caregiver that compliance or appropriate attention-getting behaviors were "appropriate" or should be reinforced. Baseline probes continued until the caregiver's performance was consistent.

Prompt Delay

During the prompt-delay phase, caregivers were given the instructions from baseline and

new instructions specific to the prompt delay phase. They were informed the experimenter would prompt him/her to provide reinforcement when she saw a defined target behavior; however, he/she did not need to wait for a prompt before using reinforcement. Caregivers were also told they would have a chance to look for appropriate behavior on their own later.

Probes were conducted as in baseline; however, when a defined target behavior occurred, the experimenter provided a prompt if the caregiver had not already provided a consequence. Prompts included statements such as, “now would be a good time to use reinforcement”, “this is an appropriate behavior”, or some variation of these statements. Prompts were initially delivered immediately following occurrences of targeted client behaviors (i.e., prompts were delivered according to a zero-second delay). Subsequently, prompts were delivered two, four, and six seconds following target behaviors. Delays were escalated following three consecutive probes in which the caregiver provided consequences (prompted or unprompted) following target behaviors. The six-second delay was maintained throughout the remainder of training. The mastery criterion was providing an unprompted consequence for five consecutive probes. The caregiver moved to the next phase when the criterion was met; the criterion could be met at any of the prompting levels or in baseline.

Prompting for Caregiver 0038 was changed to a tactile prompt (a tap on the shoulder) after eight probes at a zero-second prompt delay. This participant had a hearing impairment, which was addressed with a hearing aid and an ability to read lips; however, the context in which probes occurred was sometimes chaotic, limiting the effectiveness of verbal prompts.

Feedback

Prior to probes caregivers were instructed to identify and respond to appropriate

behaviors and that the experimenter would provide feedback on their use of reinforcement. Probes were conducted as in baseline; however brief (less than 30 seconds) feedback was delivered immediately following each probe. Feedback included praise for correct steps, corrective feedback on steps performed incorrectly, and suggestions about how to perform the skill in the future. The criteria for accurate use of reinforcement were five consecutive probes during which 1) consequences were presented without prompts, 2) Steps 1, 2, 4, 5, and 6 were performed with at least 75% accuracy, and 3) Steps 1, 2, 4, 5, and 6 were performed with at least 90% mean accuracy. To attain an average of 90% it was necessary to perform Steps 1, 2, 4, 5, and 6 of reinforcement with 100% accuracy for three of the five probes. The feedback phase was considered complete when these criteria were met.

Structured Antecedent Procedure

In order to increase the number of opportunities to provide reinforcement during observations and expedite the assessment process, a structured antecedent procedure was conducted with Caregiver 0028. Sessions were conducted during scheduled workshop hours when clients frequently received instructions and prompts. Caregivers generally worked with only one client at a time during workshop.

Probes were conducted as during other conditions; however, prior to initiating probes the experimenter informed the caregiver that the experimenter would occasionally prompt them to ask the client to perform a task, and the only client target behavior that would be scored as an opportunity to provide reinforcement was compliance. The caregiver was prompted to provide a vocal instruction if 60 seconds elapsed during which the caregiver had not issued a task request.

Instructions were related to the ongoing work task (e.g., ask the client to put another bolt in the cup, ask the client to count the number of items, etc).

Caregiver and client behavior were scored in the same way and the same phrases were implemented during the structured antecedent procedure as those discussed above. Sessions lasted until 10 probes were completed or until the session had to be stopped for other reasons (e.g., the caregiver's shift ended, or the client left the room).

CHAPTER 3

RESULTS

Results from Multiple Baseline across Participants

Data for Caregivers 0062, 0024, and 0038 are presented in Figure 1. This figure shows unprompted responses to opportunities to reinforce (cumulative data path) and accuracy scores (bars) for each probe. Table 1 shows the percentage of probes during which caregivers correctly identified opportunities to provide reinforcement, and Table 2 shows the caregivers' average accuracy scores on the reinforcement checklist.

Caregivers 0062 and 0038 required a total of 27 and 60 probes respectively to complete the assessment of caregiver generalization of reinforcement and the retraining procedure. Caregiver 0024 participated in the assessment and retraining procedure for 49 probes; however, he never reached mastery criterion because he resigned from the facility before completing the study.

Identification of Opportunities

All three caregivers consistently failed to identify opportunities to provide reinforcement in baseline. Caregiver 0062 identified opportunities to provide reinforcement by responding with a consequence for 38% of probes, and performance was consistently low. However, performance improved quickly when prompting was implemented and this caregiver moved quickly though the prompt delay schedule, identifying opportunities independently during 70% of probes. She continued to identify opportunities to provide reinforcement during the feedback and return to baseline conditions; unprompted consequences were provided for 100% of measured opportunities in these latter phases.

During baseline, Caregiver 0024 inconsistently provided a consequence following targeted opportunities; he provided consequences for 58% of measured opportunities. He required a total of 24 probes to reach the mastery criterion for identifying opportunities and required frequent prompting, especially during the six-second delay. The experimenter met with the caregiver to clarify the definition of compliance between Probes 33 and 34. Independent identification of opportunities did not maintain during feedback. It is noteworthy that, although it was unplanned, the experimenter modeled specific praise for Caregiver 0024 twice during the study; however, it appears modeling did not affect subsequent performance.

Caregiver 0038 identified opportunities to provide reinforcement during 52% of baseline probes. When a vocal prompt was used during the prompt delay phase, Caregiver 0038 independently identified 33% of opportunities. At the beginning of the zero-second prompt delay, Caregiver 0038 responded to vocal prompts by telling the experimenter what behavior he saw; however, he always failed to respond to prompts by providing a consequence to the client. Between Probes 23 and 24, the caregiver was instructed to direct his interactions to the client rather than telling the experimenter what behavior he saw that was appropriate. Then, between Probes 26 and 27, he was instructed to provide reinforcement after he saw the client's behavior and not immediately after he placed the demand. Because these additional instructions failed to improve performance, a tactile, rather than verbal prompt was implemented during Probe 31 (i.e., the experimenter tapped the caregiver on the shoulder when the experimenter saw an opportunity to provide reinforcement). After the tactile prompt was implemented, Caregiver 0038 moved quickly through the prompt delay schedule and met the mastery criterion within 11 probes. During feedback and return to baseline, Caregiver 0038 continued to independently identify opportunities.

The prompt delay procedures appeared to produce consistently accurate identification of opportunities to provide reinforcement for all three caregivers. Two of the three participants continued to respond to opportunities when prompting was discontinued, indicating that prompt delay was effective in transferring control of responding from the experimenter's prompts to client's behavior.

Performance on the Checklist

All caregivers' accuracy on performing the steps of the reinforcement checklist was low during baseline, largely because they consistently failed to identify opportunities. During baseline, Caregivers 0062, 0024, and 0038 performed 31%, 38% and 33% of steps accurately, respectively. However, when failures to identify opportunities were not included in calculating accuracy, Caregivers 0062, 0024, and 0038 implemented the checklist with 83%, 66%, and 64% accuracy respectively. In other words, when caregivers identified opportunities to provide reinforcement they performed the checklist with moderate accuracy.

Caregiver 0062's performance on the checklist was variable in baseline with accuracy between 0%-100%; however, when she identified opportunities to provide reinforcement she performed the checklist with between 75%-100% accuracy. In prompt delay, she continued to perform the checklist with accuracy between 75%-100% for all probes. Performance improved during feedback with more probes performed with 100% accuracy (i.e., she provided specific praise more often in feedback than in prompt delay). During return to baseline, Caregiver 0062's accuracy decreased slightly to 75% for all three probes (it is noteworthy that this caregiver provided specific praise during the first probe; however, she provided the specific praise after the client had completed the task rather than within seven seconds of initiation of compliance).

Caregiver 0024's performance of the checklist was also variable in baseline, ranging from 0% to 75%. He also consistently responded to opportunities to provide reinforcement with inappropriate consequences (e.g., he often placed more demands immediately following compliance). During prompt delay, he continued to provide inappropriate consequences; however, when he was prompted to provide reinforcement, he consistently did so with between 75%-100% accuracy. This indicates that Caregiver 0024 was able to accurately perform the steps of the checklist; however, doing so was not controlled by client compliance and appropriate attention-getting behavior. Overall accuracy in implementing the checklist during prompt delay was 71%. Performance was variable during feedback and Caregiver 0024 never reached the mastery criteria before he left the facility; his participation in the study was terminated with an average of 50% accuracy on the steps of reinforcement during feedback.

Performance on the checklist was highly variable during baseline for Caregiver 0038, with performance between 0%-75% for all probes. During the vocal prompt delay, performance on the checklist decreased to an average of 25% because he frequently failed to respond to opportunities, even when prompted. However, when the tactile prompt was implemented, performance improved to an average of 68% and he performed the checklist with 75% accuracy for most probes. Performance on the checklist improved after several probes in feedback. During feedback, average accuracy on the checklist was 74%; the return to baseline probe was also performed with 75% accuracy.

Caregivers continued to perform the steps of the reinforcement checklist near the same levels of accuracy in prompt delay as they did when they identified opportunities in baseline. In other words, performance on the checklist did not improve after prompting, and feedback was required for all three caregivers. Feedback appeared to be effective in improving two of the three

caregivers' performances on the reinforcement checklist. However, the use of specific praise failed to maintain when feedback was removed for Caregivers 0062 and 0038. Caregiver 0024 failed to meet the mastery criteria before he left the facility.

During the study, one probe for Caregiver 0062 and one for Caregiver 0038 involved the caregivers providing descriptive praise to clients when they had completed the task rather than within seven seconds from the initiation of compliance, as specified in the current measurement system. Data were re-graphed to show those probes as acceptable and are included as Figure 2 for the reader's consideration. Data were re-graphed and displayed here because while it is often appropriate to provide reinforcement quickly following the initiation of the appropriate behavior, it may also be acceptable to provide reinforcement after the completion of the task. Regraphing probes for Caregivers 0062 and 0038 did not change the outcomes drastically; however, it may be beneficial in considering what is an acceptable in future studies.

Caregiver 0033

Data for Caregiver 0033 can be seen in Figure 3. Caregiver 0033 participated in 35 probes before his employment was terminated and was no longer eligible to participate in the study. During baseline, this caregiver rarely identified opportunities to provide reinforcement, identifying opportunities for 20% of probes. When prompt delay was implemented, independent identification of opportunities increased to 40% of probes; however, performance remained variable.

During prompt delay, Caregiver 0033 frequently failed to provide a consequence when prompted, stating he would not provide reinforcement because he did not think it would be effective. These refusals likely account for the continued variable performance. To address

refusals to respond to prompts, the experimenter presented a rationale for the project to the caregiver between Probes 25 and 26. He was told using reinforcement would help to improve the behavior of the clients with whom he worked and in return he would have to manage less challenging behavior; he was also informed that the procedure would be used to demonstrate that he could provide reinforcement with the clients, which is a part of his job duties. Additionally, between Probes 27 and 28, the supervising behavior analyst spoke to him about the training procedures (it is noteworthy that the supervising behavior analyst was employed by the facility but had no supervisory authority over other employees, including the participants in this study). At the end of the prompt delay phase, Caregiver 0033 began to independently identify opportunities by providing a consequence for four probes consecutively; however, his employment at the facility was terminated before he could reach the mastery criterion.

Caregiver 0033's accuracy of using reinforcement was 20% during baseline for all probes. However, for probes where he identified opportunities by providing a consequence, accuracy was 75%. During the prompt delay phase, implementation of the checklist averaged 63%. Performance of steps on the checklist in both baseline and prompt phases was variable.

Client Target Behaviors

Most of the client target behaviors that occurred during probes with Caregivers 0062, 0024, 0038, and 0033 were compliance, although appropriate attention-getting behavior occurred at least once for every caregiver. Across all caregivers, opportunities to provide reinforcement began with a client complying with a task during 70%-94% of probes, while only 6%-30% of probes began with appropriate attention-getting behavior. It should be noted that all prompts and most of the feedback was provided contingent on caregivers' responses to compliance rather than

appropriate attention-getting behavior. No caregivers required prompts for identifying appropriate attention-getting as opportunities during prompting.

Structured Antecedent Procedure

Caregiver 0028's performance during the structured antecedent procedure is presented in Figure 4. During baseline, he identified opportunities for 71% of probes, meeting the mastery criterion for moving to feedback after 16 probes in baseline. During feedback, return to baseline, and one-month follow-up, identification of opportunities to provide reinforcement remained consistent for 100% of probes.

Caregiver 0028 did not meet the criterion for accurately performing the reinforcement checklist in baseline; his average accuracy on performing the checklist was 50%. When feedback was implemented, performance on the checklist improved across three probes, until he was performing the checklist with 100% accuracy for five consecutive probes. Average accuracy was 84%. He continued to perform the checklist with 100% accuracy in return to baseline; however, performance declined to 75% at the one-month follow-up probe. However, immediately following the one-month follow-up probe, Caregiver 0028 used specific praise while the client continued to perform the task but after seven seconds had elapsed.

Excluded Probes

During the study a total of 17 probes were excluded from analysis because previously scored checklists could not be rescored, the data collectors made errors, opportunities to provide reinforcement ended early, or, in one instance, the caregiver reported he did not see or hear the client's behavior. Excluded probes are indicated on the graphs as arrows below the X-axis.

CHAPTER 4

DISCUSSION

The purpose of the current study was to assess the extent to which caregivers, who had been taught to use descriptive praise as social reinforcement, would recognize opportunities to do so in the natural environment and to evaluate the quality of their delivery of reinforcement. When caregivers were not able to reliably identify opportunities to reinforce, a progressive prompt delay procedure was used to train them to respond to appropriate bids for attention and compliance with requests. When participants did not deliver descriptive praise with criterion-level fidelity, feedback was used to improve performance in the natural environment.

All caregivers initially failed to respond to opportunities to provide reinforcement with high levels of accuracy. During baseline, four of the five caregivers consistently failed to respond at all to opportunities to provide reinforcement. Additionally, all caregivers who eventually met the criterion for identifying opportunities also required feedback to improve the topography of the consequences they provided. Thus, the skills learned during initial training apparently did not generalize well from the contrived setting to the natural environment. It is not entirely clear if this failure was due to repertoire deficits, stimulus control failures, or motivational variables.

Caregiver 0028, who met the criterion for identifying opportunities during baseline, participated in the structured antecedent procedure wherein the experimenter prompted the caregiver to create opportunities. Caregiver 0028 may have been more successful in baseline because of the structured antecedent procedure. It is possible that the experimenter's prompt served not only to initiate a request, but as an indirect instruction to reinforce compliance.

Caregivers may have failed to respond to opportunities to provide reinforcement because during training role plays (prior to the study) caregivers received specific instructions to use

reinforcement; thus responding to appropriate behavior during the initial role plays may have been under the control of the trainer's verbal behavior (e.g., instructions) as well as the trainer's nonverbal behavior. In the current study, caregivers demonstrated moderate accuracy in delivering verbal praise during prompted probes, suggesting that client behaviors alone had not acquired discriminative control over caregivers' use of descriptive praise. That is, although caregivers did not initiate praise until prompted, they demonstrated moderate accuracy when they did use praise. Except for additional instructions to Caregiver 0038 to direct interactions to the client and not the experimenter, all caregivers performed the checklist with at least 75% accuracy during prompted probes (they provided praise but often did not use specific praise). The experimenter never had to comprehensively review the steps of reinforcement or remind staff what reinforcement was. Although these outcomes suggest failures of stimulus control by client behavior, additional analyses would be necessary for a definitive explanation.

It appears the progressive prompt delay procedure was generally effective in transferring stimulus control from the experimenter's prompt to the client's behavior and thus training caregivers to identify opportunities to provide reinforcement in the natural environment. Two of the three caregivers continued to independently identify opportunities when prompting was removed.

It should be noted that two caregivers (0024 and 0033) consistently failed to deliver descriptive praise with or without prompts, even after extended training. These caregivers had demonstrated the ability to accurately deliver descriptive praise during previous training, so it is unlikely that these failures were entirely a function of gaps in the repertoires; rather, these appear to be related to motivation. Caregiver 0033 stated explicitly he did not see the value in providing reinforcement. Caregiver 0024 recited the definition of compliance after he was given the

feedback phase instructions, stating he did not need feedback because he knew when he should praise; yet he failed to do so subsequently. Thus, these cases appear to be matters of motivation (i.e., reinforcement for caregivers was insufficient to maintain the behavior). Caregivers who do not experience improved client behavior when using behavior management skills may be less likely to continue to use them, even when they require relatively low effort.

While data indicate that caregivers learned through a progressive prompt delay to identify opportunities, it is unknown whether their responding was solely under the control of client behavior or under joint control of client behavior, the presence of the experimenter, instructions given prior to beginning probes, or some other aspect of the assessment context. It is also unknown if caregivers continued to respond to opportunities to provide reinforcement when the experimenter was not present. However, anecdotal evidence suggests that at least one caregiver (0028) continued to provide specific praise in the experimenter's presence when their behavior was not being evaluated.

All caregivers required feedback to improve the accuracy of their performances in the natural environment to an acceptable level, indicating that refresher or booster trainings may be required to maintain skills in the natural environment. The accuracy with which caregivers delivered specific praise degraded across time and from training role plays to the contingencies present in the natural environment (though it is unclear which variables are responsible). Even when caregivers were explicitly trained to identify opportunities, performance of the reinforcement checklist remained below the mastery criterion. Thus, the data suggest that bringing caregiver responding under the control of the client's behavior did not improve the accuracy of performances.

Feedback appeared to be effective in improving caregiver's performance of the reinforcement checklist in the natural environment. The step most often omitted by caregivers was Step 1 – specifying the behavior they liked (i.e., specific praise). The mastery criterion for completing the feedback phase required the caregiver to complete all steps of the checklist – including the provision of specific praise – for three of the five final probes. Future studies could consider how often praise must be specific (i.e., to contain information that identifies the behavior targeted for reinforcement) for it to be effective. Providing praise immediately and consistently may negate the need for praise to always be specific.

Limitations and Future Directions

Several limitations were present in this study. First, caregiver identification of opportunities was synonymous with providing an unprompted consequence. However, it is difficult to determine with confidence which opportunities caregivers were "identifying" as times to provide reinforcement. This most often became a limitation when caregivers provided an "inappropriate" consequence, such as another demand, because it is impossible to know if the caregiver was attempting to reinforce compliance or appropriate attention-getting behavior (albeit incorrectly) or if they coincidentally delivered attention to the client shortly after the client engaged in a targeted behavior. Thus, some probes may have been scored positively for recognizing opportunities to reinforce when, in actuality, the caregiver's behavior was not occasioned by or meant to reinforce the client's behavior. This is particularly likely to have occurred in cases in which caregivers issued a demand shortly following compliance by the client.

Some limitations were related to the measurement system used in this study. For

example, it excluded opportunities that did not match the defined client target behaviors but were appropriate. No attempt was made to capture all possible opportunities to deliver reinforcement, in part because of the difficulty in identifying "universal" opportunities. For example, whereas pointing at the caregiver and grunting might be an appropriate attention-getting behavior for an individual who has no vocal verbal repertoire but makes his needs known by gestures, it would not be appropriate to reinforce such behavior from an individual with an extensive verbal repertoire. Thus, the current study sampled only opportunities to use reinforcement that would likely be viewed as universal across caregivers (however, anecdotal information from participant 0033 and 0024 suggests that they did not agree that the defined target behaviors should always be reinforced). Future researchers may consider developing a method to assess caregivers' implementation of reinforcement in the natural environment without defining specific client behaviors as opportunities.

Additionally, the measurement system only captured consequences from caregivers that were provided within seven seconds of an opportunity; however, as discussed previously, it may be beneficial in some circumstances to provide reinforcement when a task is completed, rather than when it is initiated. Thus, the current system may have underestimated the percentage of opportunities recognized by caregivers. Finally, no direct measures of treatment integrity were collected in the current study; future researchers should include measures to insure the integrity of the independent variable.

A final limitation is likely that no measure of client behavior was included. Thus, it is not possible to determine whether praise functioned as reinforcement (i.e., if the behaviors targeted for reinforcement maintained or increased as a function of the consequences presented by the caregivers). For example, during the prompt delay procedure one client asked the caregiver to

not praise him because he knew what he was doing was correct. However, on another occasion, the same client stated that he appreciated when the same caregiver told him what he was doing well because he likes when the caregiver appreciates the work he does. Future studies should include measures of client behavior to determine if teaching caregivers to recognize and respond appropriately to opportunities to provide descriptive praise results in improvements in clients' behavior.

Although there were several limitations in this study, several contributions can also be identified. First, caregivers who had received prior training to use social reinforcement to increase desired behaviors of their clients failed to provide reinforcement when clients emitted positive behaviors (compliance or appropriate bids for attention) in the natural environment. This conclusion warrants future research on stimuli that can be included during initial training that may promote generalization while addressing other training limitations (e.g., limited time and resources). Extending training from the classroom to the natural environment in refresher or booster trainings that includes interventions, such as prompt delays or feedback, might be beneficial in promoting generalization of skills to the natural environment. This study also suggests that practitioners and researchers should consider the identification of opportunities to perform skills as equally important as the accuracy with which they are performed.

A second contribution is the demonstration that when caregivers did deliver social reinforcement, they often displayed poor accuracy in doing so. They frequently failed to include specific descriptions of the behavior targeted for reinforcement. This outcome suggests that additional strategies to promote maintenance and generalization of accuracy should be considered. Strategies such as increasing the number and diversity of role plays during initial

training, additional practice in natural environments, and frequent maintenance/generalization checks and booster training sessions may be useful.

Lastly, the current study demonstrated that it was possible to remediate failures to identify opportunities to reinforce through a delayed prompting procedure and to increase the fidelity of implementation with simple feedback. Both interventions produced relatively rapid effects. Future research should continue to investigate the conditions under which behavior management skills maintain over time and occur in natural environments, and to develop procedures that promote both outcomes.

Table 1

Independent Identification of Opportunities to Provide Reinforcement (Percent of Probes)

Caregiver	Baseline	Prompt Delay		Feedback	Return to Baseline
		Verbal	Tactile		
0062	38%	70%		100%	100%
0024	58%	67%		67%	N/A
0038	52%	33%	46%	94%	100%
0033	20%	40%		N/A	N/A
0028	71%	N/A		100%	100% /100%

Table 2

Average Performance on the Reinforcement Checklist

Caregiver	Baseline		Prompt Delay		Feedback	Return to Baseline/One-month Follow-up
	Total	Identified Opportunities	Verbal	Tactile		
0062	31%	83%	76%		88%	75%
0024	38%	66%	71%		50%	N/A
0038	33%	64%	25%	68%	74%	75%
0033	20%	75%	63%		N/A	N/A
0028	50%	71%	N/A		84%	100% / 75%

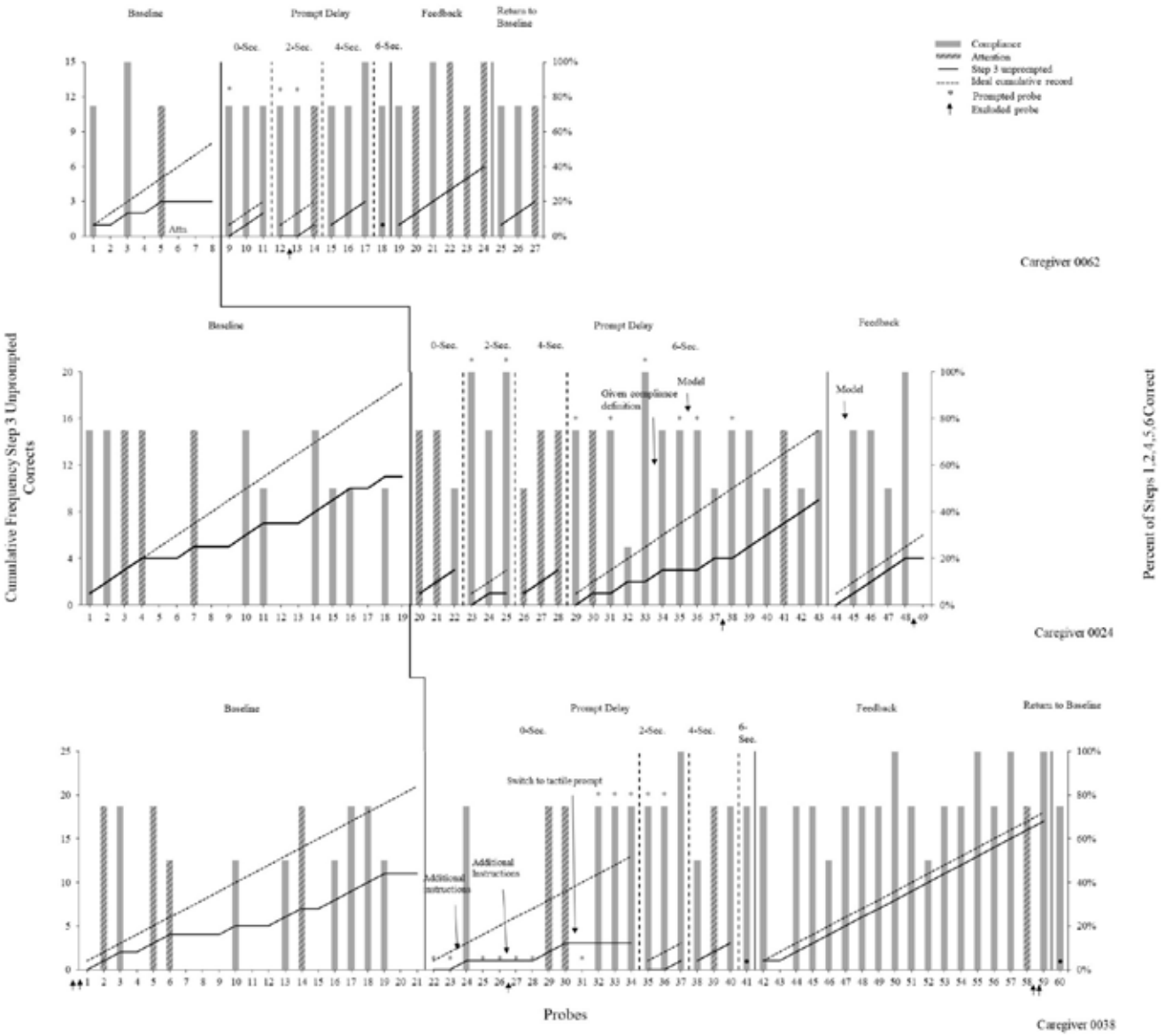

Figure 1. Nonconcurrent multiple baseline across Caregivers 0062, 0024, and 0038.

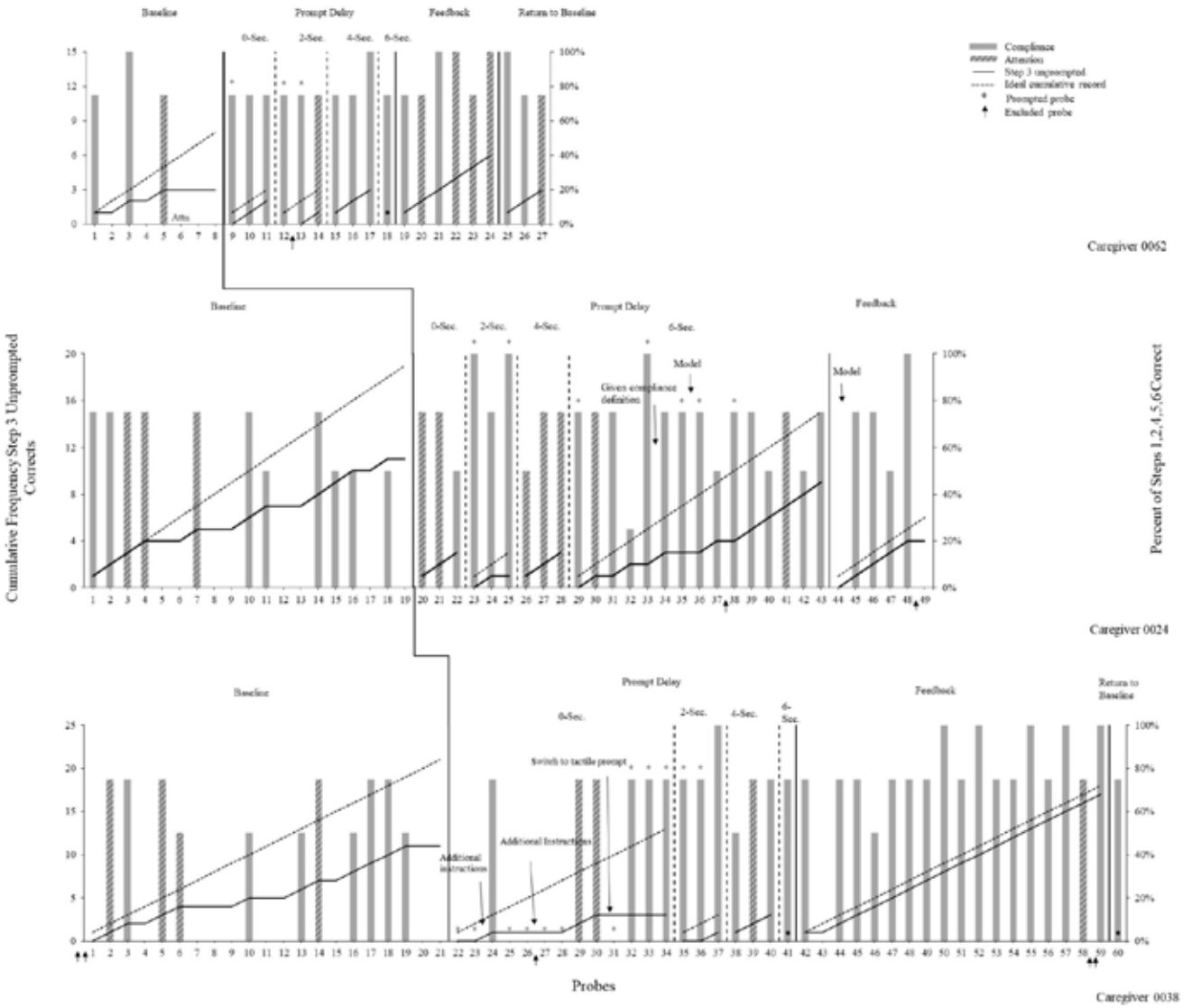

Figure 2. Nonconcurrent multiple baseline across Caregivers 0062, 0024, and 0038 with data regraphed for Caregivers 0062 (Probe 25) and 0038 (Probe 52) to include descriptive praise provided after completion of a task.

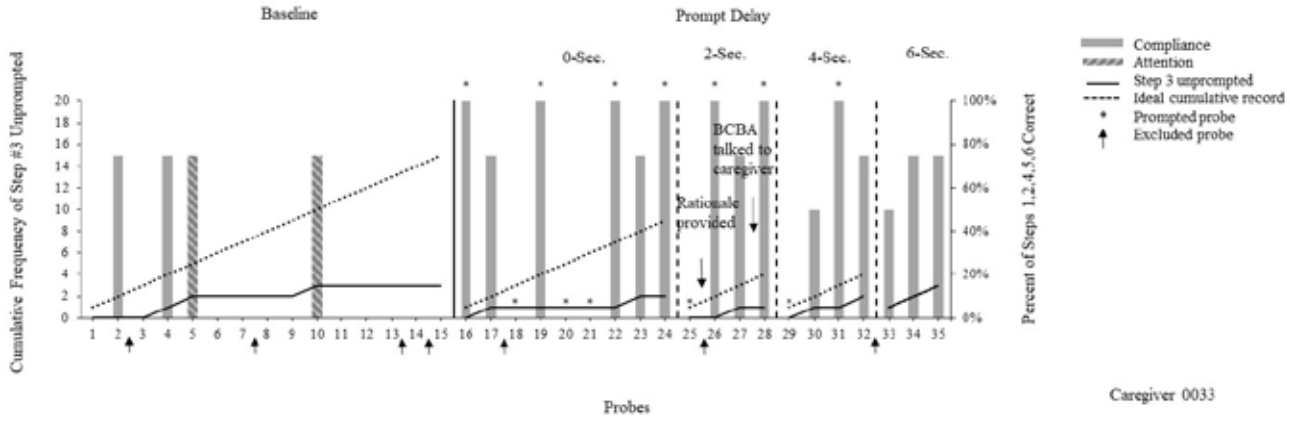

Figure 3. Caregiver 0033's performance during baseline and prompt delay.

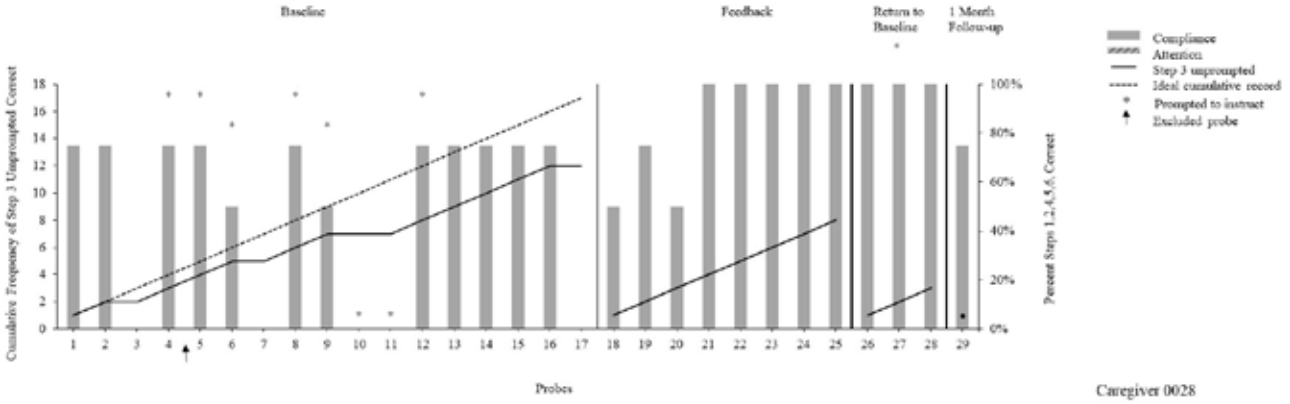

Figure 4. Caregiver's 0028's performance on the structured antecedent procedure.

APPENDIX

DATA SHEETS

Reinforcement Generalization Data Sheet

Date: _____ Staff: _____ Data Collector: _____

Time: _____ --_____ Location: _____

Instructions: See SR+ Protocol v.5 for instructions for each phase; see SR+ Generalization Data Sheet Scoring Guide v.2 for instructions on how to score the checklist. DO NOT USE CLIENT NAMES/INITIALS ON THIS DATA SHEET.

Target Behaviors:

Compliance: Any time a client **starts** to complete a task following a vocal instruction from staff, without engaging in Junk or Dangerous Behavior.

Appropriate Attention Getting Behavior: Any appropriate behavior a client uses to attempt to gain the attention of staff when the staff is not talking to, looking at, or facing that individual. Examples: waving, initiating a conversation, tapping on shoulder, calling a staff's name, etc.

Phase (circle one):	Baseline	Prompt Delay	Feedback

Prompt Provided: ☐ Prompt Delay: _____seconds

Type of Behavior (circle one):	Compliance	Attention

Describe the events below:		
Antecedent	Behavior	Consequence

Record the staff's use of reinforcement:				
	Yes	**No**	**N/A**	**Comments**
1. Tell the person what behavior you liked **The participant states an appropriate behavior that the client is engaging in*				
2. Provide a consequence for the behavior that matches the value of the behavior **i.e. Verbal Praise, Break, Walk, Snack*				
3. Provide a consequence within 3-7 seconds of recognizing the appropriate behavior **Within 3-7 seconds of client's behavior*				
4. Use sincere and appropriate facial expression, tone of voice and body language **relaxed body posture, positive affect*				
5. Say nothing and do nothing about junk behavior throughout the process **Mark Yes if ignores junk *Mark No if staff responds to junk *Mark N/A if client did not engage in Junk*				
6. Stay cool **Score Yes if uses calm voice & Avoids coercives *Score No if not calm or uses coercives*				

Record the staff's report of the events.	Did the staff observe the events? (circle one)
	Yes No

Reinforcement Structured Descriptive Assessment Data Sheet

Date: _____ Staff: _____ Data Collector: _____

Time: _____ -- _____ Location: _____

Instructions: See SR+ Structured Descriptive Assessment Protocol for instructions for each phase; see SR+ Generalization Data Sheet Scoring Guide v.2 for instructions on how to score the checklist. DO NOT USE CLIENT NAMES/INITIALS ON DATA SHEET

Target Behavior:

Compliance: Any time a client **starts** to complete a task following a vocal instruction from staff, without engaging in Junk or Dangerous Behavior.

Phase (circle one):	Baseline	Prompt Delay	Feedback

Prompt to Instruct Provided: ☐ Prompt to Reinforce: ☐ Prompt Delay: _____ seconds

Describe the events below:		
Antecedent	Behavior	Consequence

Record the staff's use of reinforcement:	Yes	No	N/A	Comments
1. Tell the person what behavior you liked **The participant states an appropriate behavior that the client is engaging in*				
2. Provide a consequence for the behavior that matches the value of the behavior **i.e. Verbal Praise, Break, Walk, Snack*				
3. Provide a consequence within 3-7 seconds of recognizing the appropriate behavior **Within 3-7 seconds of client's behavior*				
4. Use sincere and appropriate facial expression, tone of voice and body language **relaxed body posture, positive affect*				
5. Say nothing and do nothing about junk behavior throughout the process **Mark Yes if ignores junk* **Mark No if staff responds to junk* **Mark N/A if client did not engage in Junk*				
6. Stay cool **Score Yes if uses calm voice & Avoids coercives* **Score No if not calm or uses coercives*				

Record the staff's report of the events.	Did the staff observe the events? (circle one)
	Yes No

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